

REMARKS

Claims 1, 12 and 21 have been amended. Upon entry of this amendment, claims 1-29 will be pending in the application.

Claim 21 has been amended to correct the alternative units of pressure used to express the lower end of the operating range for the second distillation zone and corresponding to about 4 bar (i.e., 4×10^5 Pa) absolute.

Applicants acknowledge the withdrawal of the restriction requirement, rejections under 35 U.S.C. §112, second paragraph and the objection to the specification.

Rejection under 35 U.S.C. § 103(a)

Reconsideration is respectfully requested of the rejection of claims 1-29 under 35 U.S.C. §103(a). The invention defined in the pending claims is submitted as patentable over the disclosure of U.S. Patent No. 2,027,182 (Lazier).

Applicants have considered the Examiner's helpful comments set forth on pages 6 and 7 of the Office action.

As previously noted by applicants, the hydrogenation step as taught by Lazier is conducted on crude synthetic higher alcohols **separated from the dehydrogenation effluent by distillation**. By contrast, the liquefiable products subjected to selective hydrogenation in step (c) of the process defined in claim 1 are part of the intermediate reaction product mixture **recovered from the ethyl acetate production zone** (See, for example page 12, lines 20-30; and page 21, line 28 to page 23, line 8). That is, the crude synthetic higher alcohols produced by distillation of the dehydrogenation effluent and subjected to hydrogenation in Lazier are not recovered from the dehydrogenation zone as required in claim 1, but rather from a subsequent distillation step. Nevertheless, in order to expedite prosecution of this application, claim 1 has been amended as suggested by the Examiner on page 7 of the Office action to more particularly define the present invention. The process defined in claim 1 as amended requires that the liquefiable products of the intermediate reaction product mixture that is subjected to

selective hydrogenation in step (c) comprise a majority of the ethyl acetate produced in step (a). Support for this amendment to claim 1 may be found in the specification, for example, in the process description at page 21, line 28 to page 23, line 8 in which the entire crude product mixture in line 25 (i.e., the intermediate reaction product mixture from the fourth dehydrogenation reactor 22) containing all of the ethyl acetate produced in step (a) is cooled by a condenser in knockout pot 26 to produce uncondensed gases in line 27 and condensate (i.e., liquefiable products) in line 32. As would be recognized by those skilled in the art and as evident from the mol% composition of the streams in Table 1 referring to Fig. 1, the liquefiable products in line 32 subjected to selective hydrogenation comprise the vast majority of ethyl acetate (22.32 mol%) produced in step (a), while a small amount of ethyl acetate (0.91 mol%) is present in the uncondensed gases in line 27.

Claim 1 has also been amended to remove the expression "material of" such that step (e) affirmatively requires that selectively hydrogenated reaction product mixture recovered in step (d) be subjected to distillation. A conforming amendment has also been made to dependent claim 12. In light of the present amendments, applicants respectfully submit that the process defined in claim 1 requires that the recited steps be performed sequentially.

In view of these amendments to the claims and the arguments previously made by applicants in Amendment B, filed February 10, 2003, applicants respectfully submit that Lazier fails to teach disclose or suggest the process defined in claim 1. Accordingly, claim 1 and dependent claim 2-29 are submitted as patentable over Lazier.

On page 6 of the Office action, the Examiner asserts that the term "reactive" carbonyl groups is superfluous. However, no rejection based on the presence of this term in the claims has been made. Accordingly, applicants have not removed this term from the claims.

On page 7 of the Office action, the Examiner notes that the examples in the specification demonstrate the claimed process in accordance with step (a)(i) (dehydrogenation of ethanol to produce ethyl acetate). In the instant amendment to claim 1, options (a)(ii) (oxidation) and (a)(iv) (oxidation to acetaldehyde followed by the Tischenko reaction) set forth in the original claim, have been eliminated. Furthermore, applicants note that a rejection under 35 U.S.C. §112, first paragraph for lack of enablement has not been made and respectfully submit that persons skilled in the art could practice the invention defined in claim 1 based on the disclosure in the specification.

Information Disclosure Statements

* Enclosed herewith is a Third Supplemental Information Disclosure Statement. Applicants respectfully request review and entry of the cited references.

Cite No. 32, U.S. Patent No. 6,632,330, and Cite No. 33, pending U.S. Serial No. 09/806,180, are assigned to the assignee of the subject patent application, Davy Process Technology Limited. Applicants wish to bring these two references to the Examiner's particular attention for consideration of any potential double patenting issues.

Applicants note that Cite Nos. 13, 14, 18 and 21 submitted with the Supplemental Information Disclosure Statement filed October 21, 2002 have been crossed-out on the copy of the initialed Form PTO/SB/08A returned with the Office action. On pages 7 and 8 of the Office action, it is stated that these references have not been considered, as they are not in the English language. However, as pointed out in the Supplemental Information Disclosure Statement filed October 21, 2002, a concise explanation of the relevance of Cite Nos. 13, 14, 18 and 21 in accordance with 37 C.F.R. §1.98(a)(3)(i) may be found in applicants' specification. More particularly, an explanation of the relevance of Cite No. 13 (JP 59-25334) can be found at page 4, lines 12-14; an explanation of the relevance of Cite No. 14 (RU 362814) can be found at page 4, lines 15-19; an explanation

of the relevance of Cite No. 18 (JP 5 186392) can be found at page 6, lines 1-19; and an explanation of the relevance of Cite No. 21 (Abstract of Brazilian Patent Application No. PI 9104652A) can be found at page 4, lines 9-11. As noted in the above-referenced Rule, the concise explanation may be incorporated in the specification.

Accordingly, Applicants request that a copy of the initialed Form PTO/SB/08A indicating that Cite Nos. 13, 14, 18 and 21 have been considered be returned the with next communication from the Patent Office in connection with this application.


Conclusion

Favorable reconsideration and allowance of all pending claims are respectfully solicited. In order expedite allowance of this application, the Examiner is invited to contact the undersigned attorney by telephone to discuss any remaining issues.

Applicants request an extension of time to and including November 17, 2003 for filing a response to the above-mentioned Office action. A check in payment of the applicable extension fee is enclosed.

The Commissioner is requested to charge any fee deficiency or overpayment in connection with this amendment to Deposit Account 19-1345.

Respectfully submitted,



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*Enclosures

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